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Supporting Information (SI) for

Punishing and Toxic Neighborhood Environments Independently Predict the Intergenerational Social Mobility of Black and White Children

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Supporting Information Text

1. Parental Income Adjustment and Anonymity

To best describe variation in neighborhood conditions that affect child outcomes, Chetty et al. (1) adjust estimates for parent income. As described beginning on page 15 of (1), for each Census tract, they first fit a nonparametric smoothing function at the national level to identify the transformation that would make the relationship between parent and average child income rank linear. They then apply that same transformation to each tract-race-gender cell to make the relationship within each cell approximately linear. Next, they fit a linear regression on the transformed data. Using the regression coefficients, they estimate the expected income rank (or likelihood of incarceration, or likelihood of teen motherhood) for a child with parents at the 25th percentile of the national distribution. This is the outcome measure we use in our analysis.

Because many children move during their childhood, estimates are exposure weighted by the number of years prior to age 23 in which the child is claimed as a dependent in any given Census tract, as described on page 17 of (1). Note that this weighting essentially treats years of exposure to a given tract as interchangeable, no matter what age a child was when he or she lived there.

As described on page 18 of (1), two procedures are used to maintain anonymity in the publicly available data, which are available at https://opportunityinsights.org/data/. First, tract-race-gender cells with fewer than 20 observations are suppressed entirely. Second, random noise inversely proportional to sample size is added to each tract's estimate.

2. Weighting and Reliability Adjustments

Following Chetty et al. (1), there are two rationales for employing weights in our analysis. First, although there are approximately 230,000 black and white children with data on social mobility in Chicago, the number of children raised in each tract, our unit of analysis, affects the precision of mobility estimates for that tract, and we may wish to give larger weights to tracts that have more precise mobility estimates. The number of underlying observations also varies across outcomes, with incarceration observed less frequently than income, for example. In total, there are 72,291 black males with income mobility observed, 51,539 black males with incarceration observed, 77,394 black females with teen birth observed, 80,053 white children with income mobility observed, and 38,275 white females with teen birth observed.

Second, our primary analysis focuses on children whose parents earned less than the national median income. The spatial distribution of these children does not necessarily match that of all children, and when identifying the environmental factors that predict outcomes for poor children it makes sense to focus on the areas where they live. We may thus wish to give larger weights to tracts with larger populations of children with parents who earned less than the median income. As expected, these two weights are highly correlated, at 0.83. In our primary analysis, we employ the product of the number of observations and the number of children with parents below the national median income in 2000 as our weight because we are concerned about both the precision of outcome estimates and the environmental conditions of neighborhoods with poor children specifically. However, our main conclusions are robust to the weights that we choose.

We adjust our R^2 values for the added noise using the reliability ratio. This is the ratio of signal variance to total variance. Signal variance is calculated as the difference between total variance (the variance of the outcome across tracts) and noise variance (the average of the square of the standard error within each tract).

The reliability ratios for our analyses for black children vary between 0.36 and 0.61. These are lower than the ratios for the national data reported in (1) because of the smaller sample size and smaller signal variation in our sample. As reported in the text, the reliability of estimates for white male incarceration and income rank are quite low, so we exclude white incarceration and analyze income rank for white boys and girls combined.

3. Formal Tests of Increases in Explanatory Power

To determine the statistical significance of the increases in R^2 that we find, we conduct F-tests on the joint significance of all PHDCN-related variables. These report the likelihood of observing our results under the null hypothesis that the true coefficients on all of the additional variables are zero, and thus they contribute no explanatory power whatsoever. Under that hypothetical the test statistic would be distributed according to an F-distribution with degrees of freedom equal to the number of parameters being tested. In all cases our variables are jointly significant at $p < 0.01$. We report the F statistic, number of degrees of freedom, and p-value for each R^2 comparison mentioned in the main text.

4. Pooled Mobility Outcomes by Tract Majority Race

Figure S1 presents histograms of pooled-race mobility outcomes by tract majority race. For all three outcome variables, most majority black tracts are substantially worse than most majority white tracts. In some cases, especially when the sample size is small and the outcome is relatively rare, the expected outcomes can be negative. This is an artifact of the way anonymity is preserved, as described on page 19 of (1). It occurs primarily for the predicted incarceration probabilities for poor whites. However, we do not analyze white incarceration because of its extremely low reliability (near zero, see text). The purpose of Figure S1 is to show the nonoverlapping distributions by majority tract race.

5. Bivariate Relationships Between PHDCN Variables and Outcomes

Figure S2 presents bivariate scatterplots with fitted regression lines showing the relationship between each PHDCN variable and the three mobility outcomes. These bivariate relationships are quite strong in many cases, particularly for teen motherhood. This is true for both the social organization measures and the environmental harshness/toxicity measures.

6. Correlations Between PHDCN Variables and Census Variables

Table S1 presents the correlations among harshness/toxicity variables by tract majority race, as described in the main text. Tables S2-S4 present the bivariate correlations between the PHDCN variables and Census explanatory variables for all tracts in our sample, majority black tracts, and majority white tracts respectively. Across the entire city,

the harshness/toxicity variables are correlated with the poverty rate at 0.665 or higher. They are similarly correlated with the share African American and have a moderate negative correlation with the share college educated. The social control variable is negatively correlated with poverty, while neither of the other two social organization variables is strongly correlated with any of our Census variables.

If we examine the correlations only within majority black tracts (Table S3), the correlation between lead exposure and poverty drops substantially to just 0.31, while the negative correlation between college education and lead increases in magnitude to -0.68. Interestingly, the correlation of poverty rate with violence and incarceration, and the negative correlation between poverty and social control, remain relatively strong.

Looking at the correlations within majority white tracts only (Table S4), we again see a decline in magnitude of the correlation between lead exposure and poverty, though here there is also a decline in the correlation between poverty and violence or incarceration.

7. Full Regression Output

The full output of our primary analysis is presented in Tables S5 (for black children) and S6 (for white children). Tables S7 and S8 present the results for black and white children respectively using the three Census factors rather than the selected Census variables as controls. The results with the Census factors are similar to the main results with selected Census variables.

8. Exposure to Social Organization Variables by Tract Majority Race

Figure S3 presents histograms showing the exposure to our three measures of neighborhood social organization by tract majority race. Unlike our measures of environmental harshness or toxicity, exposure to social organization is not heavily racialized in Chicago. Majority white tracts have higher levels of social control than majority black tracts on average, though the disparity is not nearly as pronounced as it is for our measure of punishing environments. There is very little difference between black and white tracts in local networks or community organizations.

9. Social Significance Calculations

To estimate the social significance of exposure to environmental harshness, and its potential contribution to overall racial inequality, we calculate the predicted difference in mobility outcomes for a black child living in a tract with a typical harshness/toxicity level among predominantly black tracts and that of those of an identical black child living with the harshness/toxicity level typical of white tracts. We do this in two ways.

First, as reported in the main text, we calculate the change in predicted outcomes that would result if the black children in our sample had been exposed to the distribution of toxicity levels experienced by the white children in our sample. This equates to taking the difference between the toxicity level experienced by the mean black and mean white child, where tract observations are weighted by the number of child observations in each tract,

and multiplying that by the coefficient from the regression for black children. The mean toxicity levels vary from outcome to outcome because the sample varies slightly, but as an example the mean toxicity level of black boys in our income mobility sample is 0.78, while that of white boys is -0.99. Figure 2 reports standardized coefficients, so we multiply those coefficient estimates of toxicity by the ratio of the standard deviation of the outcome to the standard deviation of toxicity within that specific regression sample. We then multiply this unstandardized coefficient by the difference in mean toxicity levels between blacks and whites (1.76 in the case of income mobility).

Second, we calculate the difference in predicted outcomes between a black child living in a tract with the toxicity level of the median majority black tract and an identical black child living with the toxicity of the median majority white tract. The toxicity level in the median majority black tract is 1.02, while that in the median majority white tract is -1.02 (these medians are unweighted by tract population). We multiply this difference by the unstandardized coefficient on toxicity described above, and compare this to the difference in outcomes between the median black and white children in our sample (calculated by taking the median value of the outcome variable weighted by the number of black or white children for whom the outcome is measured only). This analysis finds that a black boy with parents at the 25th percentile of the national income distribution exposed to the level of toxicity of the median majority black Census tract would be predicted to have a likelihood of incarceration 6.7 percentage points higher than if he were instead exposed to the level of the median majority white Census tract, compared to an overall median incarceration likelihood of 11.3% for black boys and 1.2% for white boys. His predicted income rank would be 4.2 percentiles higher, relative to a median expected rank at the 36th percentile for black boys and the 53rd percentile for white boys. For black girls, the predicted difference in teenage motherhood between the toxicity levels of the median black and white tract is 12.1 percentage points, compared to a median expected prevalence of 55% among poor black girls and 10% among poor white girls.

10. Robustness Checks

We conduct five main tests of the robustness of our findings. First, we repeat our primary analysis using the incarceration rate from 1990-1995, instead of 1995-2000, to reduce concerns about the endogeneity of incarceration and possible mechanical results. Second, we consider the possibility of interaction effects between the three harshness/toxicity variables, and test the sensitivity of our results to controlling for the lead testing coverage rate. Third, we consider two other variables that identify punishing environments—the rate of drug crimes and the police-based arrest rate. Fourth, we consider two additional variables that may be predictive of child outcomes but that may be correlated with included measures—the number of nonprofit organizations (versus perceived) and same-race father presence. Fifth, and finally, we present a series of tests accounting for spatial autocorrelation with different spatial weight specifications.

10.1 Timing of Incarceration

In our primary analysis we use the incarceration rate from 1995-2000, during which our cohorts ranged from 12 to 22 years old. It is possible that some members of the older cohorts could have been incarcerated during 1995-2000, raising concerns that our

measurement may be constructing a relationship between the incarceration of a tract in the 1990s and the incarceration rate in 2010 of children who were adolescents there. The likelihood of this representing a substantial source of bias is arguably low. We estimate that over 70 percent of prisoners in Illinois were admitted for the first time at age 23 or older from 1995-2016. For the direct mechanical relationship to obtain, the children in our sample would also have to be incarcerated for more than 10 years.

Nonetheless, we rerun our analysis using the incarceration rate from 1990-1995, when all children in our sample were, at most, 17 years old and thus not eligible to be in state prison. The incarceration rate is highly stable between neighborhoods over time, with the rate from 1990-95 correlated at 0.95 with that from 1995-2000. As this would suggest, results using the 1990-1995 rate are almost identical to our primary results: tract incarceration is the most important predictor of individual income rank and teen motherhood, while lead exposure is the most important predictor of future incarceration.

10.2 Interaction effects and specification of harshness/toxicity variables

We consider the possibility that there may be interaction effects between violence, incarceration, and lead exposure. To account for this, we run several versions of our analysis with interacted variables. One version includes the three-way interaction and all pairwise interactions between the three harshness/toxicity variables as independent predictors. A second constructs one factor from the combination of the three variables and the four interactions. A third constructs a composite variable by summing the z-scores of all seven toxicity and interaction variables for each observation. None of the three methods of incorporating interactions substantially changes either the explanatory power of our models or the significance of the harshness/toxicity variables as predictors. The two composite indicators are correlated with our main harshness/toxicity composite at 0.98.

We also reestimate models using the toxicity factor after dropping lead testing coverage. The toxicity factor is again significant and the largest predictor in all models, and there are large and statistically significant increases in explanatory power over the Census-based measures. The absolute magnitude of the toxicity coefficient is somewhat lower in models for the social mobility of blacks and somewhat higher for whites. In either specification, then, the main result holds. Because our main substantive goal is to directly measure lead exposure, our preferred models control for testing coverage.

10.3 Alternative measures of punishing environments

As a further means of addressing potential concerns about the variables used to measure harshness/toxicity in our main analysis, we consider two other tract characteristics: the rate of reported drug crimes from 1995-2000 and the overall arrest rate. These are correlated with our harshness/toxicity factor at 0.92 and 0.84 respectively. As suggested by the high correlation, they perform similarly when substituted for violence and incarceration, respectively, in the harshness/toxicity factor in models of mobility outcomes, significantly predicting all three outcome variables and reducing the predictive power of the poverty rate. For example, when the alternative harshness/toxicity factor is substituted, there is no change in the prediction of white income rank and teen birth for

both white and black females. The alternative harshness/toxicity factor explains modestly more variance in black male income rank but less in black male incarceration. Overall, then, the basic pattern is very similar.

10.4 Additional controls

We consider two additional variables for testing against our preferred model. First, because our survey measures of organizational involvement are somewhat imprecise, we consider an alternative: using the density of nonprofit organizations in each tract as determined by the National Center for Charitable Statistics (see also 2). We construct the log rate of nonprofits per 100,000 population in 1994, which comes closest to matching our other indicators in 1995 and the late 1990s while being temporally prior.

Second, we consider as an additional control the fraction of children of the target race in each tract with fathers present, which positively predicts mobility outcomes in previous research (3) and which is a reasonable proxy for the prevalence of incarcerated fathers in our sample, conditional on poverty and other characteristics of the neighborhood.

Results are presented in Tables S9 (for black children) and S10 (for white children). Neither variable is significant in predicting incarceration or teen motherhood. Higher levels of same race father presence are a significant positive predictor of income for black boys, though not a significant predictor of income for white children. This may be due to higher levels of variation in father presence among blacks than whites. Higher numbers of local nonprofits are a positive and significant predictor of income for white children but a negative and significant predictor of income for black children. Despite being significant predictors of income, then, neither of the additional variables substantially alters the magnitude or significance of harshness/toxicity or organizational involvement as measured by the Community Survey.

10.5 Spatial Models

Our primary specifications are based on the subset of Census tracts in Chicago for which each social mobility outcome is observed for a given race-gender pairing. Because of the segregated nature of Chicago, only about 1/2 of the total tracts are included in each regression model, resulting in spatial "holes" and isolated tracts in our data, unlike in typical spatial models. For this reason, our primary prediction specifications are not based on spatial models.

Nonetheless, we are sensitive to the possibility of spatial autocorrelation in our measures. It is possible that unobserved features of the Chicago landscape may influence child outcomes, and that these features may be similar across neighboring Census tracts. To account for this possibility, we estimate a series of spatial models as a further check. Diagnostic tests performed in GeoDa Space indicated that spatial error rather than spatial lag models are appropriate (4, 5). We thus allow the error term of each tract in the regression to be correlated with those of its neighbors.

We run versions of the spatial error model in Stata, which was used to estimate our nonspatial models, with two sets of spatial weights: "rook" weights, where tracts that share a boundary are considered to be connected, and "queen" weights, where tracts are considered connected if they touch at even a single point. We also run models with both types of spatial weights on a dataset where we drop isolated tracts that do not adjoin any other tracts with observations of the outcome variable. Furthermore, we estimate spatial error models with corrections for heteroscedasticity, using both a maximum-likelihood (ML) and generalized 2SLS estimator. The estimates of coefficients, significance levels, and changes in R^2 are very similar overall to those reported in the main text. Notably, in the spatial error model estimated with ML and robust standard errors and using rook spatial weights—our preferred specification because tracts share boundaries rather than just points—the estimates for our main harshness/toxicity factor are: -0.38 ($p = 0.0006$) for black male income rank, 0.44 ($p < 0.0001$) for black male incarceration, 0.50 ($p < 0.0001$) for black female teen motherhood, -0.34 ($p < 0.0001$) for white income rank, and 0.23 ($p = 0.015$) for white female teen motherhood (compare Tables S5 and S6).

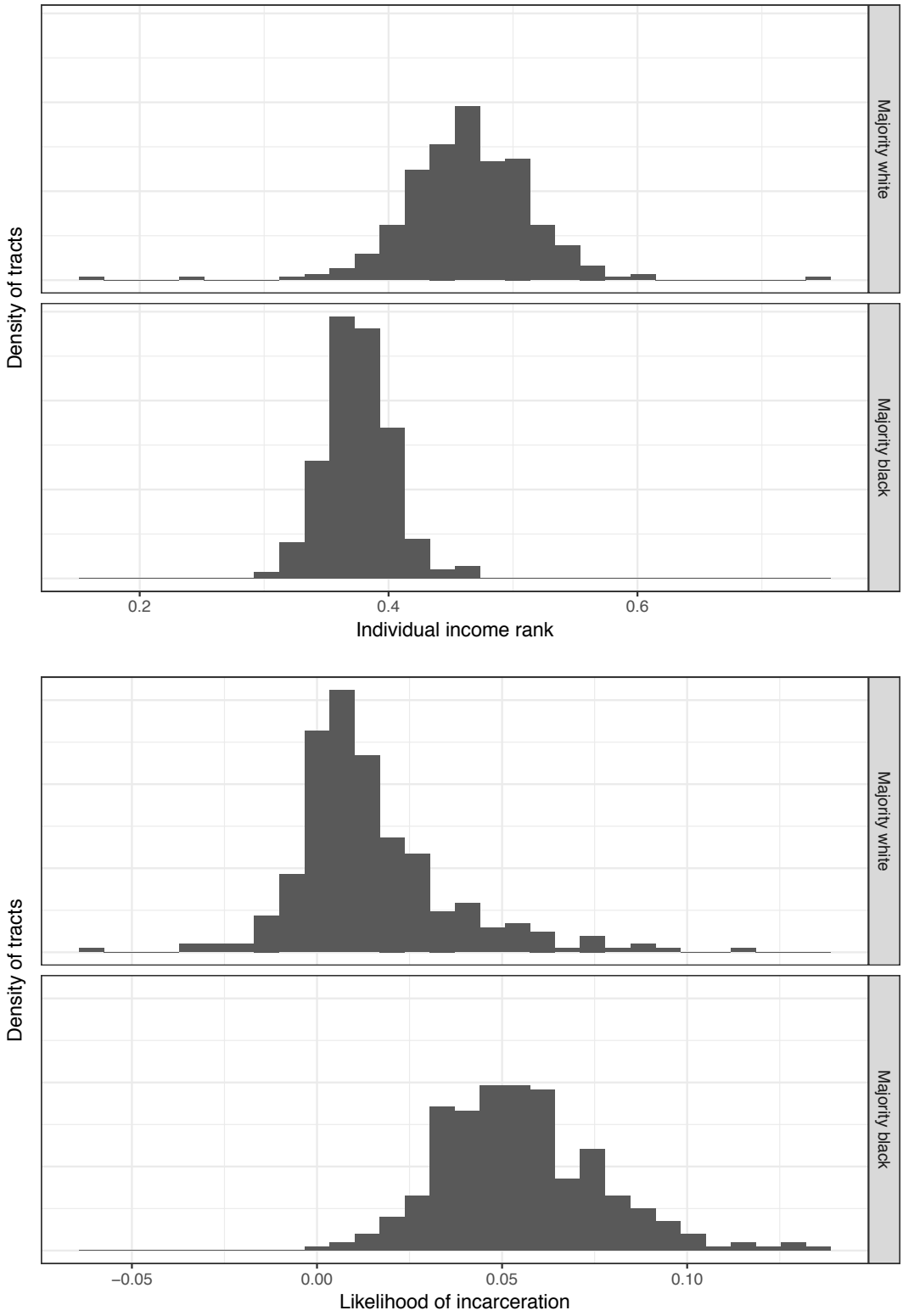
The consistency between the spatial and nonspatial models comes even though we do not use sample weights in the spatial models, a practice a not supported by the Stata spatial software implementation and one not commonly used. However, as noted, we adjust standard errors for all sources of heteroscedasticity in tract level estimates with spatial autocorrelation, offering another form of robustness check on the tract weights in our main analysis. The main difference that arises between the spatial models and our primary results is that the coefficient on poverty rate in the regression of income rank for white children is positive and significant. This result is a function of not employing sample weights rather than accounting for spatial autocorrelation.

SI References

1. Chetty R, Friedman JN, Hendren N, Jones MR, & Porter SR (2018) The Opportunity Atlas: Mapping the childhood roots of social mobility. (NBER Working Paper No. 25147. DOI: 10.3386/w25147).
2. Sharkey P, Torrats-Espinosa G, & Takyara D (2017) Community and the crime decline: The causal effect of local nonprofits on violent crime. *American Sociological Review* 82(6):1214-1240.
3. Chetty R, Hendren N, Jones MR, & Porter SR (2018) Race and economic opportunity in the United States: An intergenerational perspective. (NBER Working Paper No. 24441. DOI: 10.3386/w24441).
4. Anselin L, Berab AK, Florax R, & Yoon MJ (1996) Simple diagnostic tests for spatial dependence. *Regional Science and Urban Economics* 26(1):77-104.
5. Anselin L & Rey SJ (2014) *Modern Spatial Econometrics in Practice: A Guide to GeoDa, GeoDaSpace and PySAL* (GeoDa Press LLC, Chicago, IL).

Figures

Fig. S1. Pooled outcomes for poor children by tract majority race



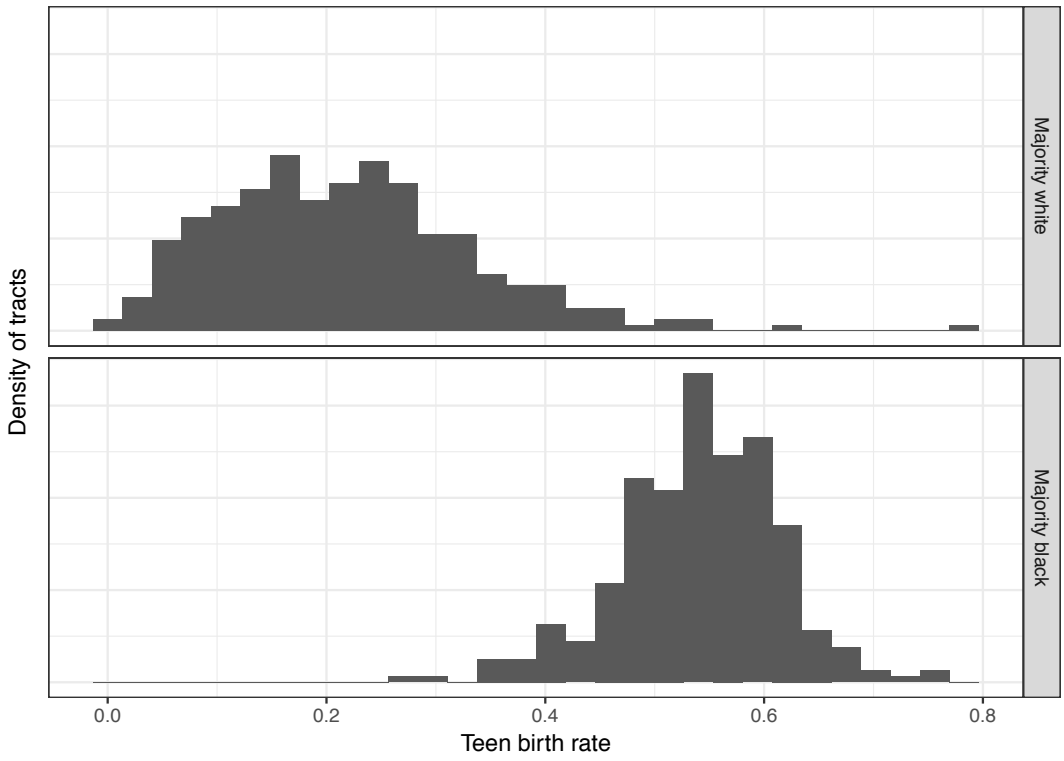
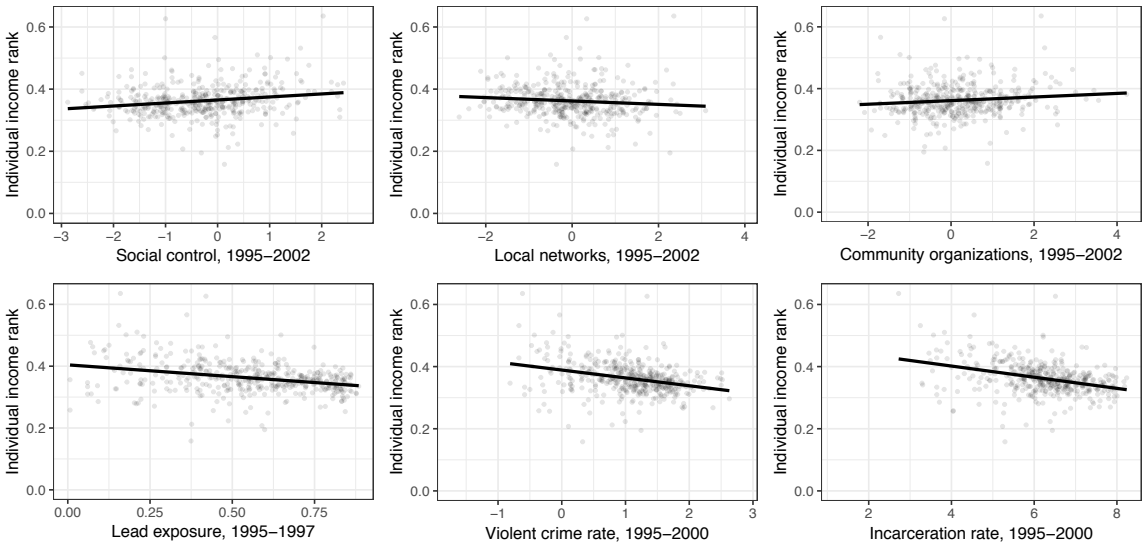
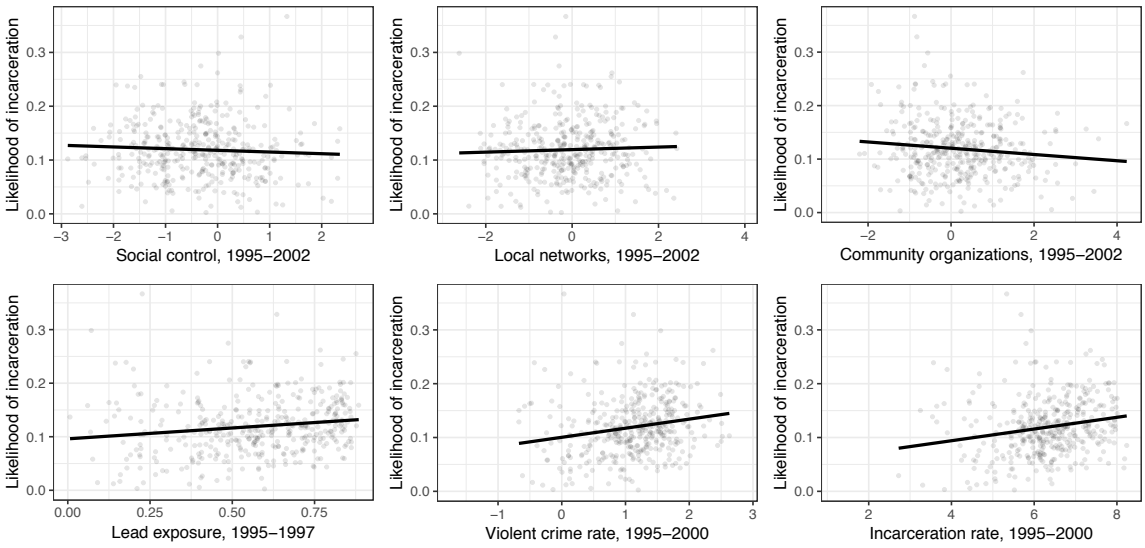

Majority white
Majority black
Density of tracts
0.0
0.2
0.4
0.6
0.8
Teen birth rate

Fig. S2. Scatterplots of outcomes and explanatory variables of interest

A. Income rank for poor African American boys



B. Likelihood of incarceration for poor African American boys



C. Likelihood of teenage motherhood for poor African American girls

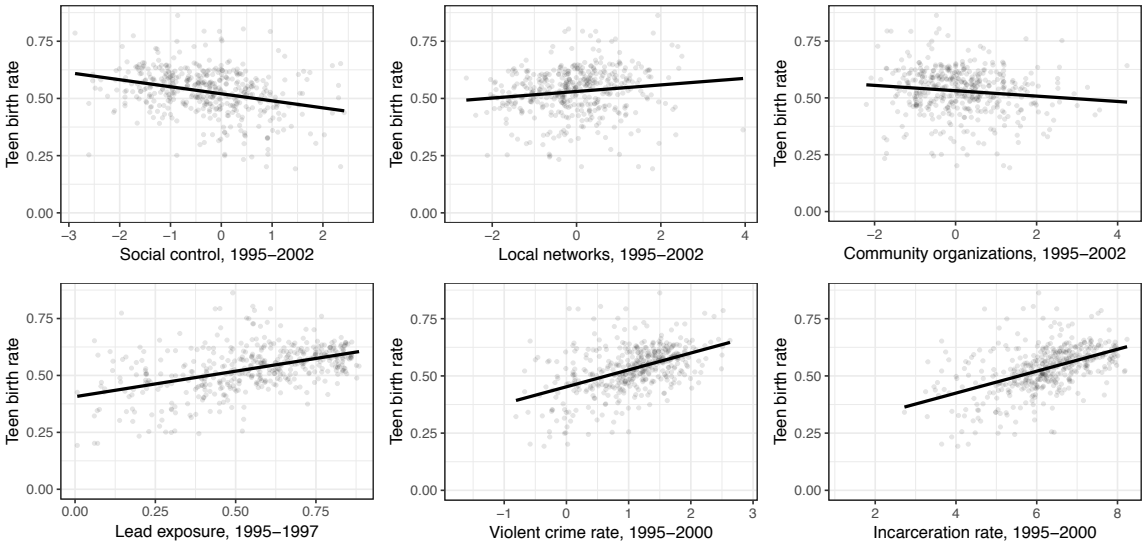
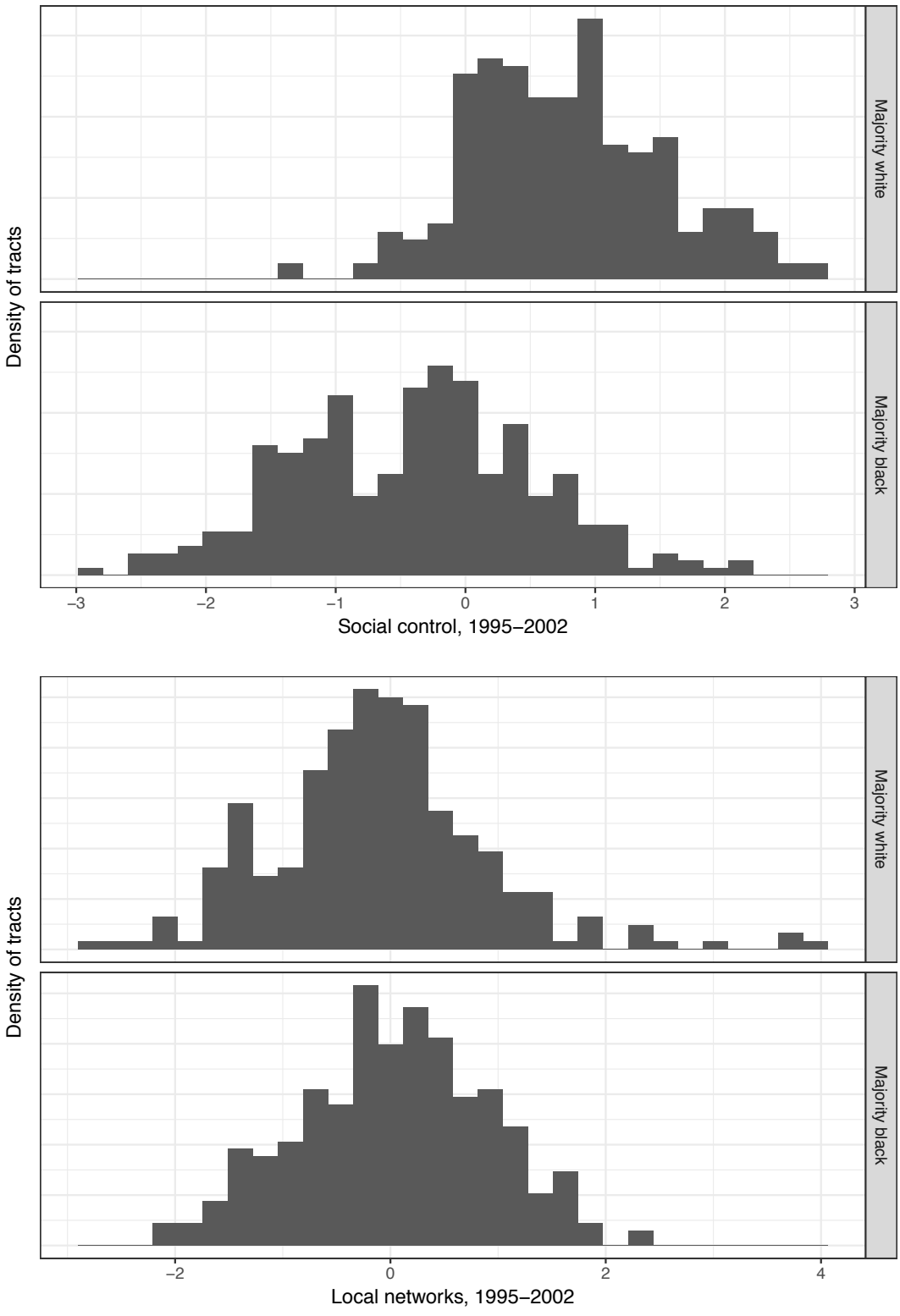
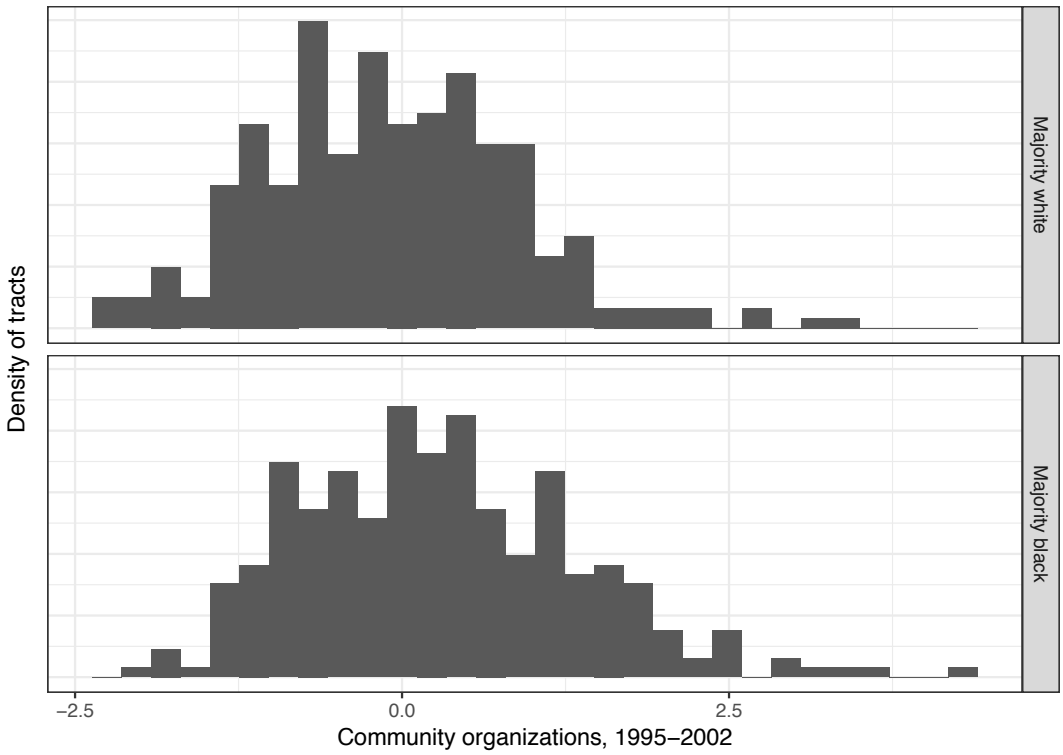


Fig. S3. Measures of social organization by tract majority race




Majority white
Majority black
Density of tracts
−2.5
0.0
2.5
Community organizations, 1995–2002

Tables

Table S1. Correlations among toxicity variables by tract majority race

Correlation among harshness/toxicity variables	Sample	Lead exposure, 1995-1997	Violent crime rate, 1995-2000	Incarceration rate, 1995-2000
Lead exposure, 1995-1997	All tracts	1.00	0.78	0.84
Violent crime rate, 1995-2000		0.78	1.00	0.90
Incarceration rate, 1995-2000		0.84	0.90	1.00
Lead exposure, 1995-1997	Majority-black tracts	1.00	0.54	0.69
Violent crime rate, 1995-2000		0.54	1.00	0.75
Incarceration rate, 1995-2000		0.69	0.75	1.00
Lead exposure, 1995-1997	Majority-white tracts	1.00	0.43	0.48
Violent crime rate, 1995-2000		0.43	1.00	0.69
Incarceration rate, 1995-2000		0.48	0.69	1.00

Table S2. Correlations between main PHDCN and Census indicators, all tracts

Correlation between PHDCN and Census predictor variables, all tracts	Poverty rate, 1995	Share foreign born, 1995	Share college educated, 1995	Share African American, 1995	Census factor 1 (poverty)	Census factor 2 (foreign born)	Census factor 3 (education)
Lead exposure, 1995-1997	0.67	-0.35	-0.54	0.68	0.72	-0.29	0.53
Violent crime rate, 1995-2000	0.78	-0.49	-0.49	0.78	0.85	-0.44	0.47
Incarceration rate, 1995-2000	0.78	-0.43	-0.50	0.75	0.83	-0.36	0.49
Harshness/toxicity factor	0.78	-0.45	-0.54	0.78	0.84	-0.38	0.52
Social control, 1995-2002	-0.68	0.03	0.33	-0.36	-0.55	-0.07	-0.32
Local networks, 1995-2003	0.17	-0.06	-0.21	0.00	0.02	-0.03	0.31
Community organizations, 1995-2002	-0.08	-0.24	0.00	0.21	0.08	-0.27	0.00

Table S3. Correlations between main PHDCN and Census indicators, majority black tracts only

Correlation between PHDCN and Census predictor variables, majority black tracts	Poverty rate, 1995	Share foreign born, 1995	Share college educated, 1995	Share African American, 1995	Census factor 1 (poverty)	Census factor 2 (foreign born)	Census factor 3 (education)
Lead exposure, 1995-1997	0.31	-0.22	-0.68	0.30	0.38	-0.03	0.44
Violent crime rate, 1995-2000	0.73	-0.25	-0.65	0.39	0.74	-0.06	0.63
Incarceration rate, 1995-2000	0.66	-0.26	-0.70	0.33	0.63	0.00	0.68
Harshness/toxicity factor	0.63	-0.27	-0.77	0.39	0.65	-0.03	0.65
Social control, 1995-2002	-0.63	0.01	0.50	-0.15	-0.62	-0.28	-0.49
Local networks, 1995-2003	0.34	-0.08	-0.12	0.03	0.26	0.03	0.22
Community organizations, 1995-2002	-0.37	0.03	0.20	-0.05	-0.37	-0.10	-0.18

Table S4. Correlations between main PHDCN and Census indicators, majority white tracts only

Correlation between PHDCN and Census predictor variables, majority white tracts	Poverty rate, 1995	Share foreign born, 1995	Share college educated, 1995	Share African American, 1995	Census factor 1 (poverty)	Census factor 2 (foreign born)	Census factor 3 (education)
Lead exposure, 1995-1997	0.45	0.24	0.08	0.03	0.32	0.30	-0.06
Violent crime rate, 1995-2000	0.51	0.19	-0.03	0.33	0.44	0.22	-0.02
Incarceration rate, 1995-2000	0.60	0.18	0.03	0.37	0.54	0.30	-0.09
Harshness/toxicity factor	0.63	0.24	0.02	0.31	0.52	0.32	-0.07
Social control, 1995-2002	-0.53	-0.21	-0.24	-0.18	-0.54	-0.41	0.37
Local networks, 1995-2003	-0.18	-0.32	-0.21	-0.22	-0.32	-0.35	0.33
Community organizations, 1995-2002	-0.01	-0.11	-0.06	0.07	-0.15	-0.12	0.17

Table S5. Full regression output, primary specification, black children

	Income Rank (boys)						Incarceration (boys)						Teen Motherhood (girls)					
	Census		PHDCN (separate)		PHDCN (factor)		Census		PHDCN (separate)		PHDCN (factor)		Census		PHDCN (separate)		PHDCN (factor)	
	beta	p	beta	p	beta	p	beta	p	beta	p	beta	p	beta	p	beta	p	beta	p
Poverty rate, 1995	-0.23	0.00	-0.12	0.18	-0.14	0.03	0.19	0.00	0.12	0.24	0.11	0.11	0.33	0.00	0.24	0.00	0.26	0.00
Share foreign born, 1995	0.15	0.13	0.15	0.16	0.14	0.18	-0.07	0.53	-0.05	0.68	-0.05	0.66	-0.11	0.20	-0.12	0.16	-0.12	0.17
Share college educated, 1995	0.35	0.00	0.18	0.00	0.18	0.00	-0.12	0.05	0.09	0.23	0.09	0.23	-0.46	0.00	-0.25	0.00	-0.26	0.00
Share African American, 1995	0.16	0.11	0.20	0.06	0.20	0.05	-0.07	0.53	-0.13	0.28	-0.13	0.26	-0.18	0.04	-0.23	0.01	-0.23	0.01
Social control, 1995-2002			-0.04	0.50	-0.05	0.46			0.12	0.10	0.12	0.10			0.05	0.37	0.05	0.33
Local networks, 1995-2003			0.00	0.92	-0.01	0.79			0.01	0.90	0.01	0.91			-0.09	0.02	-0.08	0.03
Community organizations, 1995-2002			0.02	0.66	0.02	0.64			0.00	0.98	0.00	0.98			-0.05	0.15	-0.06	0.15
Lead exposure, 1995-1997			-0.12	0.11					0.20	0.02					0.16	0.01		
Violent crime rate, 1995-2000			-0.11	0.22					0.15	0.16					0.15	0.05		
Incarceration rate, 1995-2000			-0.21	0.01					0.15	0.11					0.24	0.00		
Harshness/toxicity factor					-0.38	0.00					0.44	0.00					0.47	0.00
N	430		430		430		402		402		402		438		438		438	
R-sq (unadjusted)	0.24		0.29		0.28		0.07		0.13		0.13		0.44		0.51		0.51	

Table S6. Full regression output, primary specification, white children

	Income Rank (boys and girls)						Teen Motherhood (girls)					
	Census		PHDCN (separate)		PHDCN (factor)		Census		PHDCN (separate)		PHDCN (factor)	
	beta	p	beta	p	beta	p	beta	p	beta	p	beta	p
Poverty rate, 1995	-0.33	0.00	0.00	0.98	0.01	0.91	0.40	0.00	0.10	0.24	0.12	0.17
Share foreign born, 1995	0.08	0.14	0.14	0.03	0.13	0.04	-0.33	0.00	-0.50	0.00	-0.51	0.00
Share college educated, 1995	0.25	0.00	0.17	0.00	0.18	0.00	-0.30	0.00	-0.24	0.00	-0.23	0.00
Share African American, 1995	0.05	0.38	0.14	0.01	0.13	0.02	0.02	0.70	-0.06	0.25	-0.08	0.16
Social control, 1995-2002			-0.01	0.90	0.02	0.81			-0.18	0.01	-0.14	0.04
Local networks, 1995-2003			0.00	0.95	-0.02	0.79			-0.05	0.46	-0.07	0.22
Community organizations, 1995-2002			-0.12	0.01	-0.12	0.01			-0.01	0.91	-0.01	0.88
Lead exposure, 1995-1997			-0.02	0.77					0.22	0.01		
Violent crime rate, 1995-2000			-0.24	0.00					-0.07	0.38		
Incarceration rate, 1995-2000			-0.09	0.30					0.17	0.05		
Harshness/toxicity factor					-0.34	0.00					0.26	0.00
N	457		457		457		372		372		372	
R-sq (unadjusted)	0.13		0.23		0.22		0.21		0.31		0.30	

Table S7. Full regression output, Census factor specification, black children

	Income Rank (boys)						Incarceration (boys)						Teen Motherhood (girls)					
	Census		PHDCN (separate)		PHDCN (factor)		Census		PHDCN (separate)		PHDCN (factor)		Census		PHDCN (separate)		PHDCN (factor)	
	beta	p	beta	p	beta	p	beta	p	beta	p	beta	p	beta	p	beta	p	beta	p
Census factor 1 (poverty)	-0.25	0.00	-0.04	0.68	-0.04	0.58	0.17	0.00	0.03	0.81	0.04	0.64	0.39	0.00	0.28	0.00	0.23	0.00
Census factor 2 (foreign born)	-0.05	0.24	-0.03	0.59	-0.04	0.47	0.02	0.63	0.05	0.46	0.05	0.44	0.16	0.00	0.17	0.00	0.16	0.00
Census factor 3 (education)	-0.34	0.00	-0.20	0.00	-0.21	0.00	0.17	0.00	0.06	0.38	0.07	0.26	0.46	0.00	0.35	0.00	0.33	0.00
Social control, 1995-2002			-0.02	0.75	-0.03	0.68			0.09	0.24	0.09	0.24			0.08	0.14	0.09	0.10
Local networks, 1995-2003			-0.01	0.79	-0.02	0.68			0.02	0.73	0.02	0.71			-0.08	0.03	-0.08	0.02
Community organizations, 1995-2002			0.04	0.38	0.04	0.36			-0.02	0.77	-0.01	0.79			-0.05	0.18	-0.06	0.14
Lead exposure, 1995-1997			-0.15	0.03					0.13	0.08					0.23	0.00		
Violent crime rate, 1995-2000			-0.11	0.25					0.13	0.22					0.08	0.30		
Incarceration rate, 1995-2000			-0.22	0.01					0.12	0.20					0.18	0.01		
Harshness/toxicity factor					-0.41	0.00					0.33	0.00					0.48	0.00
N	430		430		430		402		402		402		438		438		438	
R-sq (unadjusted)	0.22		0.28		0.28		0.08		0.11		0.11		0.44		0.53		0.53	

Table S8. Full regression output, Census factor specification, white children

	Income Rank (boys and girls)						Teen Motherhood (girls)					
	Census		PHDCN (separate)		PHDCN (factor)		Census		PHDCN (separate)		PHDCN (factor)	
	beta	p	beta	p	beta	p	beta	p	beta	p	beta	p
Census factor 1 (poverty)	-0.21	0.00	0.18	0.05	0.17	0.05	0.37	0.00	0.13	0.16	0.15	0.10
Census factor 2 (foreign born)	-0.15	0.00	0.00	0.99	0.03	0.66	-0.08	0.12	-0.39	0.00	-0.34	0.00
Census factor 3 (education)	-0.34	0.00	-0.13	0.04	-0.14	0.03	0.54	0.00	0.46	0.00	0.46	0.00
Social control, 1995-2002			0.01	0.83	0.05	0.49			-0.23	0.00	-0.17	0.01
Local networks, 1995-2003			-0.06	0.30	-0.06	0.22			-0.04	0.44	-0.07	0.20
Community organizations, 1995-2002			-0.07	0.10	-0.08	0.09			-0.04	0.40	-0.03	0.54
Lead exposure, 1995-1997			0.02	0.82					0.19	0.02		
Violent crime rate, 1995-2000			-0.24	0.00					-0.17	0.04		
Incarceration rate, 1995-2000			-0.14	0.13					0.20	0.03		
Harshness/toxicity factor					-0.37	0.00					0.15	0.15
N	457		457		457		372		372		372	
R-sq (unadjusted)	0.16		0.22		0.22		0.28		0.33		0.31	

Table S9. Additional explanatory variables, black children

	Income Rank (boys)						Incarceration (boys)						Teen Motherhood (girls)					
	Primary Model		Non-profits		Father presence		Primary Model		Non-profits		Father presence		Primary Model		Non-profits		Father presence	
	beta	p	beta	p	beta	p	beta	p	beta	p	beta	p	beta	p	beta	p	beta	p
Poverty rate, 1995	-0.14	0.03	-0.09	0.16	-0.06	0.37	0.11	0.11	0.10	0.17	0.08	0.35	0.26	0.00	0.25	0.00	0.29	0.00
Share foreign born, 1995	0.14	0.18	0.15	0.14	0.16	0.13	-0.05	0.66	-0.05	0.64	-0.06	0.61	-0.12	0.17	-0.12	0.17	-0.10	0.23
Share college educated, 1995	0.18	0.00	0.25	0.00	0.18	0.00	0.09	0.23	0.07	0.39	0.09	0.23	-0.26	0.00	-0.26	0.00	-0.25	0.00
Share African American, 1995	0.20	0.05	0.20	0.06	0.21	0.04	-0.13	0.26	-0.13	0.26	-0.14	0.24	-0.23	0.01	-0.23	0.01	-0.21	0.01
Social control, 1995-2002	-0.05	0.46	-0.01	0.92	-0.05	0.39	0.12	0.10	0.11	0.14	0.12	0.09	0.05	0.33	0.05	0.38	0.04	0.46
Local networks, 1995-2003	-0.01	0.79	-0.01	0.90	-0.02	0.74	0.01	0.91	0.00	0.94	0.01	0.89	-0.08	0.03	-0.08	0.03	-0.08	0.03
Community organizations, 1995-2002	0.02	0.64	0.02	0.61	0.01	0.87	0.00	0.98	0.00	0.99	0.01	0.88	-0.06	0.15	-0.06	0.14	-0.06	0.12
Harshness/toxicity factor	-0.38	0.00	-0.34	0.00	-0.38	0.00	0.44	0.00	0.43	0.00	0.44	0.00	0.47	0.00	0.47	0.00	0.47	0.00
Number of non-profit organizations			-0.15	0.00					0.04	0.42					0.01	0.73		
Same race father presence					0.12	0.03					-0.06	0.36					0.07	0.13
N	430		430		430		402		402		402		438		438		438	
R-sq (unadjusted)	0.28		0.30		0.29		0.13		0.13		0.13		0.51		0.51		0.52	

Table S10. Additional explanatory variables, white children

	Income Rank (boys and girls)						Teen Motherhood (girls)					
	Primary Model		Non-profits		Father presence		Primary Model		Non-profits		Father presence	
	beta	p	beta	p	beta	p	beta	p	beta	p	beta	p
Poverty rate, 1995	0.01	0.91	-0.02	0.82	-0.01	0.94	0.12	0.17	0.11	0.22	0.11	0.19
Share foreign born, 1995	0.13	0.04	0.15	0.02	0.15	0.02	-0.51	0.00	-0.50	0.00	-0.50	0.00
Share college educated, 1995	0.18	0.00	0.12	0.03	0.19	0.00	-0.23	0.00	-0.25	0.00	-0.22	0.00
Share African American, 1995	0.13	0.02	0.14	0.01	0.14	0.01	-0.08	0.16	-0.07	0.19	-0.07	0.20
Social control, 1995-2002	0.02	0.81	0.01	0.91	0.03	0.60	-0.14	0.04	-0.15	0.03	-0.13	0.06
Local networks, 1995-2003	-0.02	0.79	-0.01	0.81	-0.01	0.84	-0.07	0.22	-0.07	0.23	-0.08	0.21
Community organizations, 1995-2002	-0.12	0.01	-0.11	0.02	-0.11	0.01	-0.01	0.88	0.00	0.98	0.00	0.94
Harshness/toxicity factor	-0.34	0.00	-0.36	0.00	-0.36	0.00	0.26	0.00	0.25	0.00	0.24	0.01
Number of non-profit organizations			0.12	0.01					0.06	0.27		
Same race father presence					-0.08	0.18					-0.07	0.19
N	457		457		457		372		372		372	
R-sq (unadjusted)	0.22		0.24		0.23		0.30		0.30		0.30	